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Cultural Implications of Customer Satisfaction Differences of Help Desks in the US and China

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Abstract

Customer satisfaction has become a very important aspect of business management in the high technology market. Companies that provide products and services world-wide often are concerned that customer satisfaction may be impacted by cultural differences. This study examines measures of customer satisfaction in two areas (China and the United States) to determine whether or not there is a difference in satisfaction scores provided by Help Desks. The trend in overall satisfaction over the seven year period from 2005 through 2011 is increasing in China faster than in the United States. Correlations between variously measured parameters of Help Desks and overall satisfaction are very similar for both countries. The statistical results at a 95% confidence level indicate there are differences in customer metrics in Help Desk support between that provided to US customers than that provided to customers in China. The results clearly indicate that companies need to understand these similarities and differences in order to optimize the use of their resources and to adjust their service offerings to respond to their different customer needs and expectations.

Introduction

Companies that provide service world-wide want to maintain their market position. One way to do that is to provide a level of customer satisfaction that meets or exceeds their customer's expectations in each unique market. While customer satisfaction does not necessarily imply customer loyalty, it is usually considered one important factor. Since the high technology industry has such a short half-life (the time from one generation of product until the next), technology companies must spend large amounts of money to support their products to assure customer retention.

The use of Help Desks to improve customer satisfaction in high technology companies has been studied in terms of pricing by Sagnika, Raghe and Vinze [1] in an attempt to control the variability of demand. An algorithm was developed that provides better economic welfare for both the company and the customers when compared to some baseline strategies described in their research. Their study has little applicability to this comparison study of China and the United States since there is no cost to the customer associated with the calls for assistance in this research. It may be worthwhile to consider

the implied cost to the customer for calls to the Help Desk in the future but this has not been considered in this study at this time.

Technostress is a concept that has been used to describe the impact of technology on both employees and customers. In general, the idea is that as the technology increases, the impact and use of the technology may induce stress on those users who are using the technology. While the concept of technostress plays an important role for both companies and customers in terms of productivity described by Tarafdar, Tu, and Ragu-Nathan [2] for employees and possibly customers, the impact of technostress on satisfaction has yet to be determined in terms of satisfaction or loyalty. For that reason, the technology used by the Help Desk has not been included in this research for comparing satisfaction level for China and the United States.

The evaluation of *customer satisfaction with electronic service encounters* by Massad, Heckman and Crowston [3] support the results found in this paper by noting that the behaviors of customer-contact employees play an important role in satisfaction. The limitation of the referenced work [3] is that the sample covers a broad range of products and types of customers including consumers. Since the research in this paper is focused on a B2B market environment, the specific findings of the referenced research of electronic service encounters does not allow for a direct comparison to this research.

The survey performed by Information Week/HDI [4] provides a complementary perspective to the basic finding of this study and is the closest comparison to this research. The major difference between the two studies is the percentage of customers that rated the Help Desk as being highly satisfied. This research study measured customers as highly satisfied for the sample for each year for US customers at about 66% for companies in this sample whereas the Information Week/HDI study indicated only 32% were highly satisfied. The primary difference is most likely the makeup of the populations of the two surveys but is otherwise not easily explainable from the two sets of data. One possible explanation is that this survey was aimed at specific customers for a specific product in the high technology industry, the other study by Information Week/HDI covered many products with products of various levels of technology and was not performed for specific companies. Because these measures are statistically different, and the populations apparently very different, a comparison of the two sets of data has little value for this research and is only considered for information purposes.

The Study

This study has been conducted to examine customer satisfaction for multinational companies in the high technology industry in the area of Help Desk. The number of companies involved in the study varies by year and ranges between three and ten companies. Help Desk (often referred to as tech support or technical support) in this study refers to the telephone support provided by companies to customers who have a problem that they cannot resolve themselves. For this study, the designation of the geographical location was determined by the location of the customer (not the location of the Help Desk). The primary purpose of the study was to test the null hypothesis that measures of customer satisfaction show no difference between the United States and China. The alternative hypothesis was that the measures of customer satisfaction would

be different. The hypothesis was specifically tested in the area of Help Desk for computers, computer peripherals and medical electronics equipment.

Key Assumptions and Rationale for the Key Assumptions

The primary assumption for this study was that service levels for Help Desk provided by each of the companies are about the same for each country. Each of the companies uses a Service Level Agreement (SLA) to define the parameter limits for service and has generally implemented these service performance parameters consistently in each country. One point to consider is that, even if the service metrics in the SLAs are significantly different in each country, these differences may, or may not, have a significant impact on the customer's perception of the service provided.

The rationale for this primary assumption of similar service levels for each company is based on the following aspects of the study:

1. The same companies are providing service in the United States and China. Thus, each individual company is controlling the level of service in each country.
2. The same or similar industries are included in the study. Each company has products of approximately the same level of complexity.
3. The same measurement system has been used to measure customer satisfaction for each company.
4. The same survey company has taken all the measurements.

What Was Not Studied

It should be pointed out that there were some limitations to the study. In particular, the data only covers a 7-year period (2005 through 2011).

Secondly, only the "overall" question was used since it was consistent for every company in the database. Hence, even though there were more than 10 questions used in the study, only the question that considered "overall" customer satisfaction was used to evaluate the null hypothesis (that there were no cultural differences in the perception of customer satisfaction between the countries). While there was a great deal of correlation between the individual questions identified below in the following section Discussion of Data, these lower levels of correlation will be considered in the next study.

The Geographical Areas Defined

This study was based on one survey questionnaire for both countries with translation made to accommodate the different languages of each country. The world-wide survey company that performed these telephone surveys for the entire 7-year period was Service 800 with corporate offices in Minnesota and other offices in Europe and Asia.

Discussion of Data

All of the data for this study was supplied by one survey-services company with world-wide offices. The data was collected by phone using a consistent script to minimize language differences. The data was provided by the manufacturers to the survey-services company which represented all the completed services for the period.

The survey services company took a random sample from the data provided by the manufacturers. It is assumed that the data provided to the company were the total of all service events for those companies so that the sample selected from the total of all events is a valid statistical probability sample.

The scale used for each question is the 5-point Likert scale. The scale is anchored as follows:

- 1 Very dissatisfied
- 2 Unanchored
- 3 Unanchored
- 4 Unanchored
- 5 Very satisfied.

All of the data for this study was stripped of any company identification. The company information was provided as an Excel spreadsheet with the companies. There was no identification by which the individual company could be recognized.

The areas of service of the Help Desk included in the survey were the following:

- 1. Ease of making the contact
- 2. Time to respond
- 3. Technical ability of the Help Desk agent
- 4. Professionalism of the agent
- 5. Product quality
- 6. Communication ability of the Help Desk agent
- 7. Completeness of the solution
- 8. Fix time
- 9. Overall satisfaction

The sample that was used for this study is broken down as follows in Table 1:

Sample /Year	2005	2006	2007	2008	2009	2010	2011
China	2480	1965	2343	1830	633	1074	1136
United States	55553	34884	43774	52865	47110	44395	29808

Table 1 Sample sizes for US and China by year

Since all the data collected is ordinal, the use of the arithmetic mean to detect differences is not statistically valid and was not used. The primary statistical test used to detect differences is the chi-square test for consistency to detect the difference between two or more distributions. The tests of significance were performed at the 5% level and rejected the null hypothesis for each year. The primary cause for the rejection is the scoring of 5s. This is shown in the following chart (Figure 1) for the percentage of 5s scored for each country in each year.

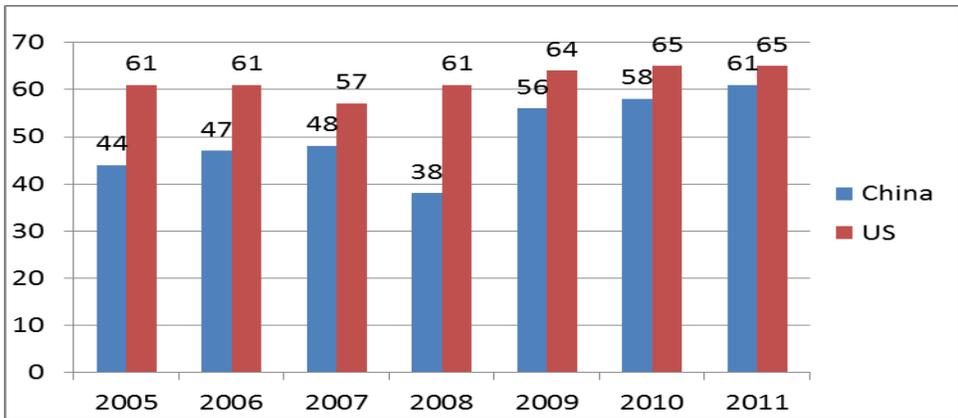


Figure 1 Percentage of response scores for the US and China that were 5s on the Likert scale

While there were several questions in the survey that might partially explain differences, the question that was used measures overall satisfaction for each service transaction (e.g. rate your overall satisfaction with this transaction). Thus, the statistic used is testing to determine if the percentage of maximum scores (percent of 5s) noted for overall satisfaction for the United States is different when compared to the percentage of maximum scores (percent of 5s) for overall satisfaction for China.

Results

The average value of satisfaction versus time for China and the United States is shown on the following chart (Figure 2). The trend equations each have an r-square about 0.3. The trend for China is about 3 times greater than the United States.

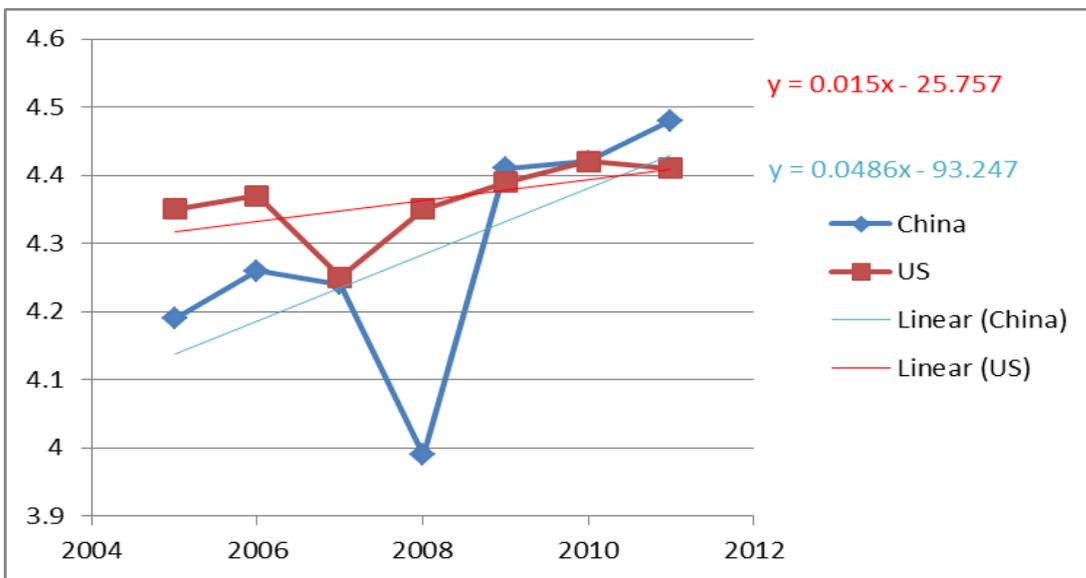


Figure 2 Trend of overall satisfaction for US and China from 2005 to 2011

The data for the comparison of correlation scores with the Help Desk are shown in the table below. These correlations show the strength of the statistical relationship of certain Help Desk activities to overall satisfaction. The first chart (Table 2) compares the highest correlation with overall satisfaction by year.

Highest correlation	2005	2006	2007	2008	2009	2010	2011
China	Tech ability	communication	Tech ability				
United States	Tech ability	Tech ability	Tech ability	Tech ability	Tech ability	Fix time	Fix time

Table 2 Highest correlation of service activity to overall satisfaction for the US and China for each year

There is a clear and consistent need by customers in China and the United States for Help Desks to focus on the ability of the technicians responding to customer requests. Technician ability consistently has the highest correlation to overall satisfaction.

When the second highest correlation scores are considered, as shown in the following table (Table 3), a second area of concern becomes apparent.

2 nd highest correlation	2005	2006	2007	2008	2009	2010	2011
China	Tech ability	*	Tech ability	Fix time	*	*	*
United States	communication	Fix time	Fix time	communication	Fix time	Tech ability	Tech ability

Table 3 The second highest correlation of service activity to overall satisfaction for the US and China for each year

* This measure related to the professionalism of the technician responding to the call at the Help Desk.

In this second highest area of correlation to overall satisfaction, the ability of the technician to deal with the customer (not in a technical sense) becomes almost as important as the technical skills for customers in China. In the United States, the measure of fix time (the total time it takes to resolve the problem) appears to be slightly more important than communication.

In China, the education system emphasizes competence rather than process. The hiring of Help Desk personnel is largely based on education and skills. Thus, the personnel may have the subject matter expertise, but the personality traits and communication skills are harder to assess and acquire. In addition, employees may not be as empowered and thus may not have the authority to consider the customer's desired outcome. The face-saving attitude of an employee may cause reluctance to call the manager or others for assistance. Thus, the customer focus is lost in the IT service delivery experience.

Historically, customer service was not as important as the price. The Help Desk professionals did not have to worry about handling irate customers. The new and younger iPhone and iPad generation, who have some knowledge of IT, expect more than information and the professionalism. This is a new area of expertise and, in all likelihood, the Help Desk experts are of the same generation as the customers. Thus, the hierarchical structure is not observed.

As consumer markets mature, shoppers' expectations also rise. China is no exception. As the new consumers seek more than the basic function of the goods they purchase, they have become more discerning. When customers call the Help Desk, there is an expectation that problems can be resolved effectively, quickly and professionally at that level.

There is a rising expectation of after-sales service. McKinsey published a study [5] about this rising level of expectation in China which included after-sales service. For mobile handset, in 2009, 14% of the respondents said it was an important factor in their buying decision. But by 2011 it was 41%.

Summary and Conclusion

In summary, it was determined that there is a statistical difference in overall satisfaction between customers in the US and China for similar high technology equipment. It was also determined that the questions that have the highest correlation with overall satisfaction are essentially the same for both the US and China.

The following specific conclusions and inferences are suggested; namely,

1. There appears to be a real difference in satisfaction scoring between the United States and China (statistically significant at 0.05).
2. Even though the differences in the measures of overall satisfaction are different, the factors within the Help Desk operation appear to be consistent for the two countries. Customers in the United States appear to be more willing to score Help Desk performance higher than customers in China.
3. The trend for the seven year period for higher levels of satisfaction is greater for China than the United States.
4. Since Help Desks are often totally or partially outsourced, the differences indicated may be due to the difference between in-house and out-sourced Help Desks rather than the location of the customer. It is not known whether or not outsourcing of the calls is used by each company.
5. There may be other significant variables involved in these perceived differences (e.g. skill level of Help Desk personnel).

While it may have been apparent that there would be a cultural difference between China and the United States, this study has been able to quantify the difference. It can now be concluded that when examining the impact of customer satisfaction, it may be necessary to account for the specific country even when the characteristic and importance of the service is similar.

Some Possible Next Steps

There are a number of possible additional issues and questions to study. The following list represents some possibilities that would expand our understanding of the cultural implications with a finer granular analysis:

1. Further analyze the detailed questions to understand the specific differences and correlations between China and the United States.
2. Analyze the year-to-year performance of China to determine the specific causes of the strong positive trend.
3. Focus on the negative scores for both China and the United States to determine if the causes for the negative scores are the same for each country (since the causes for the positive scores appear similar).
4. Further refine China into three groups (mainland, Hong Kong, and Taiwan) to determine if the satisfaction and drivers of satisfaction are similar for each group.
5. Add an implied cost component for the customer of the Help Desk as a way of providing a measure of performance for both the company and the customers. The cost component could include the cost of waiting and the cost of total time to resolve the problems.
6. Develop a metric for technostress to determine its impact on customer satisfaction and/or loyalty.

Values of the Study

This study has proven to be very valuable for the following reasons:

1. All questions were exactly the same (within translation differences).
2. All the scales were the same and identically defined.
3. The same company collected all the data.
4. All the companies in the survey have similar equipment (in terms of technology and service complexity).
5. All companies have very similar service level agreements.

For these reasons, companies in the high technology sector can begin to understand that they should not expect customer satisfaction data to be consistent from one country to another and the SLA or the metrics for each country may need to be adjusted for the cultural influence. For example, the United States may expect the speed to answer a call at the Help Desk in less time than what might be expected in China. These results may lead those high technology companies to consider weighting the scores differently from each country or change their SLAs because the performance levels may have different meanings in different cultures.

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